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Title: February 2013 pRad RMI experiments

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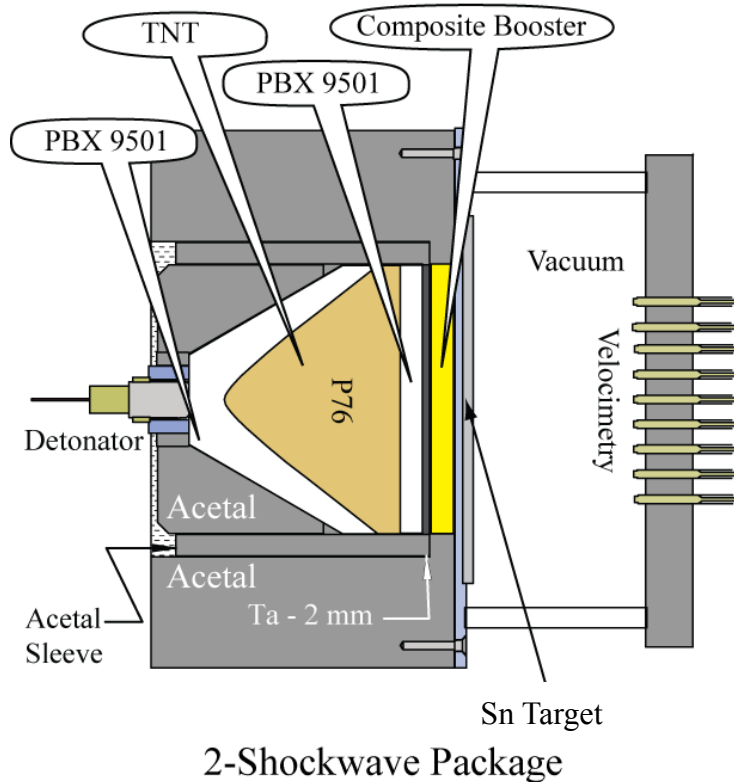
February 2013 pRad RMI experiments

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Saunders, J. B. Stone, D. Tupa, W. Vogan-McNeil**

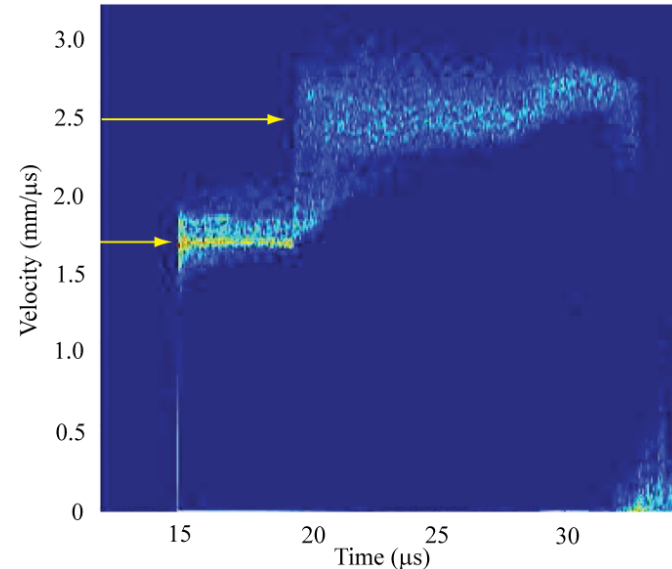
JOWOG 32 MIX

25-27 March 2013

Two-shock driver



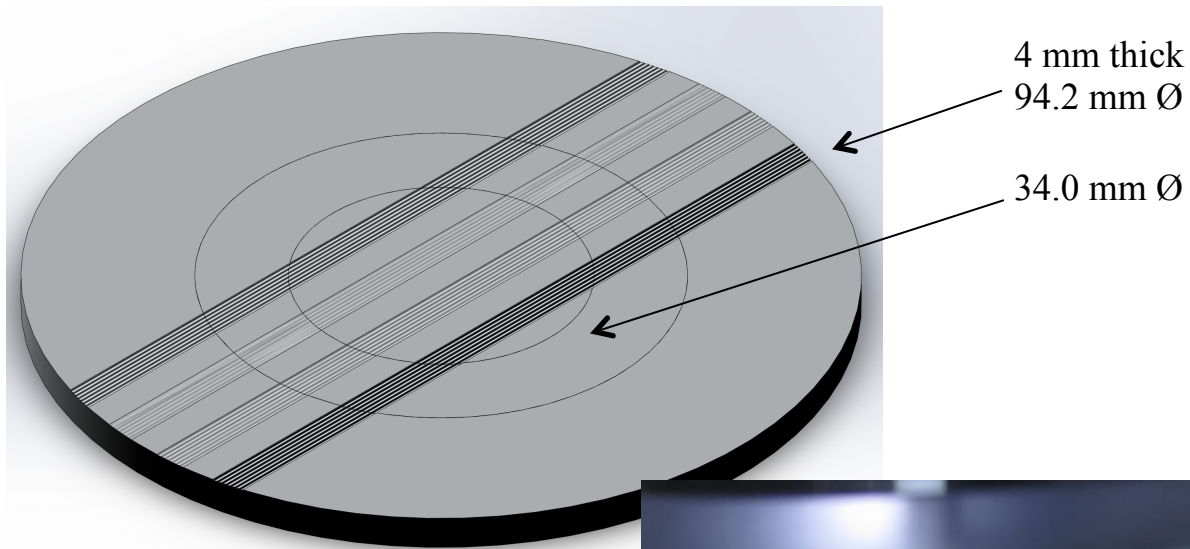
Booster: 2 mm 9501 + 4.75 mm TNT



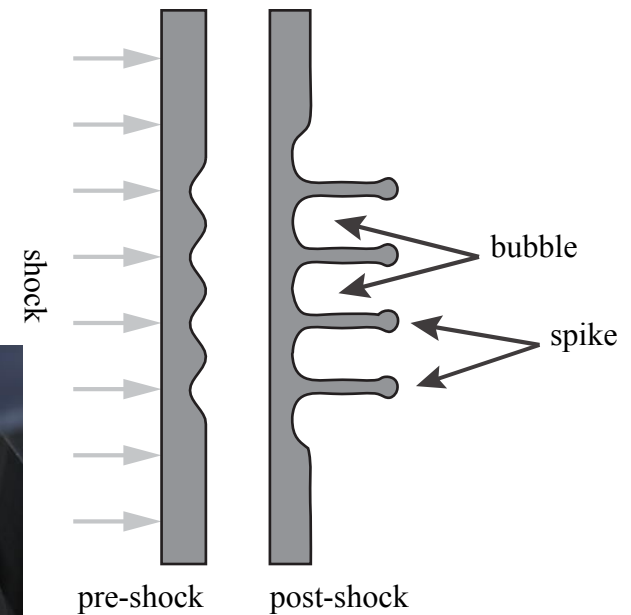
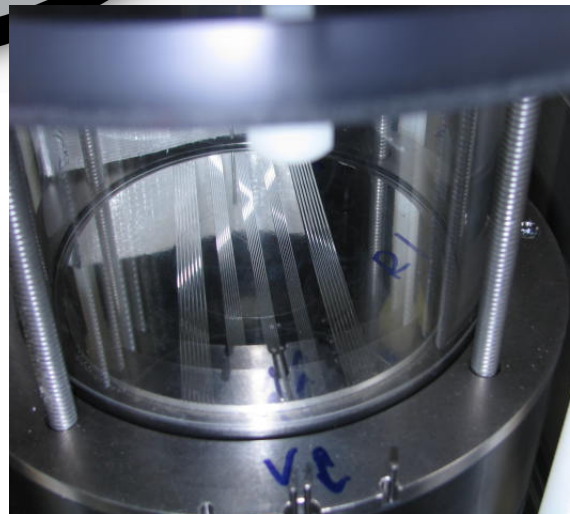
■ “Composite” Booster

- 2 mm 9501 + 4.75 mm TNT
 - **23 Gpa**
- 2nd Shock Jump:
 - $\sim 0.8 \text{ mm}/\mu\text{s} \sim 10 \text{ GPa}$

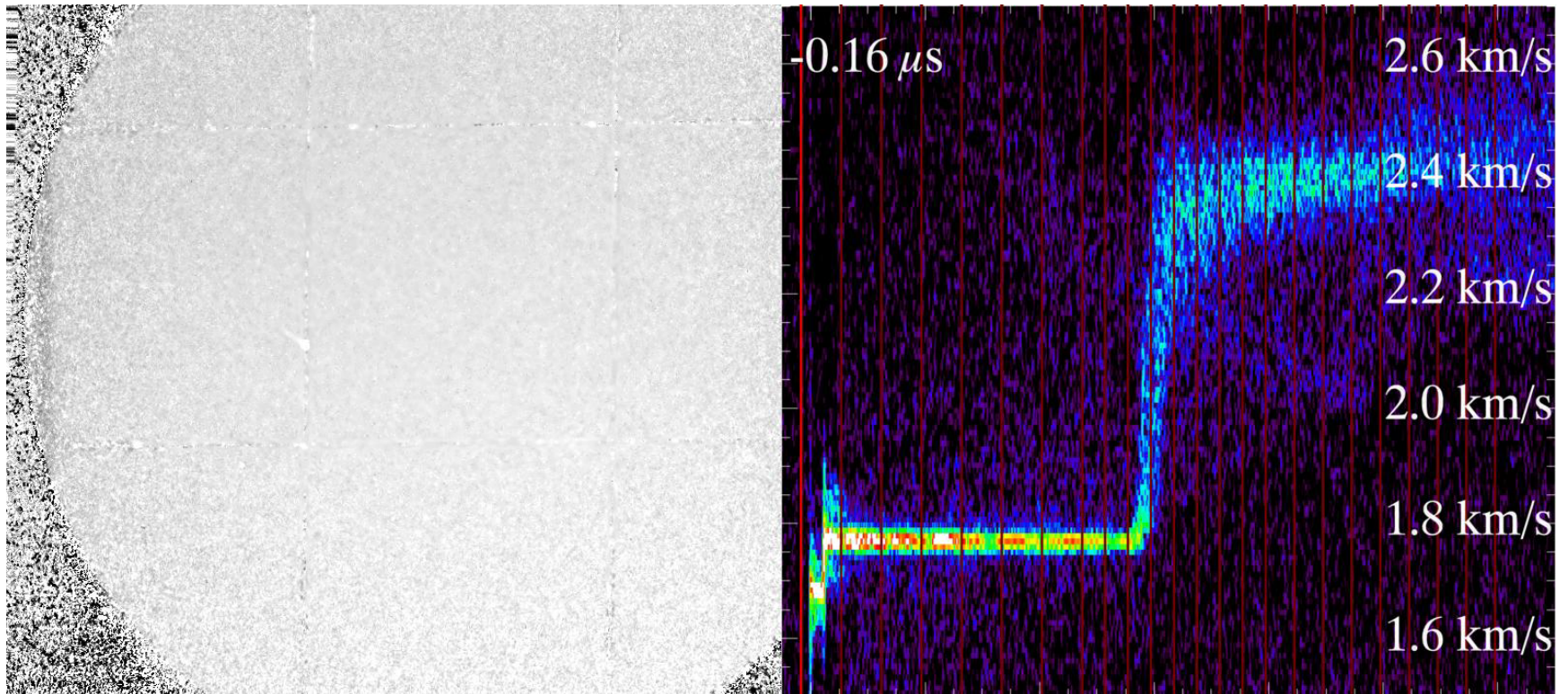
Sn Target



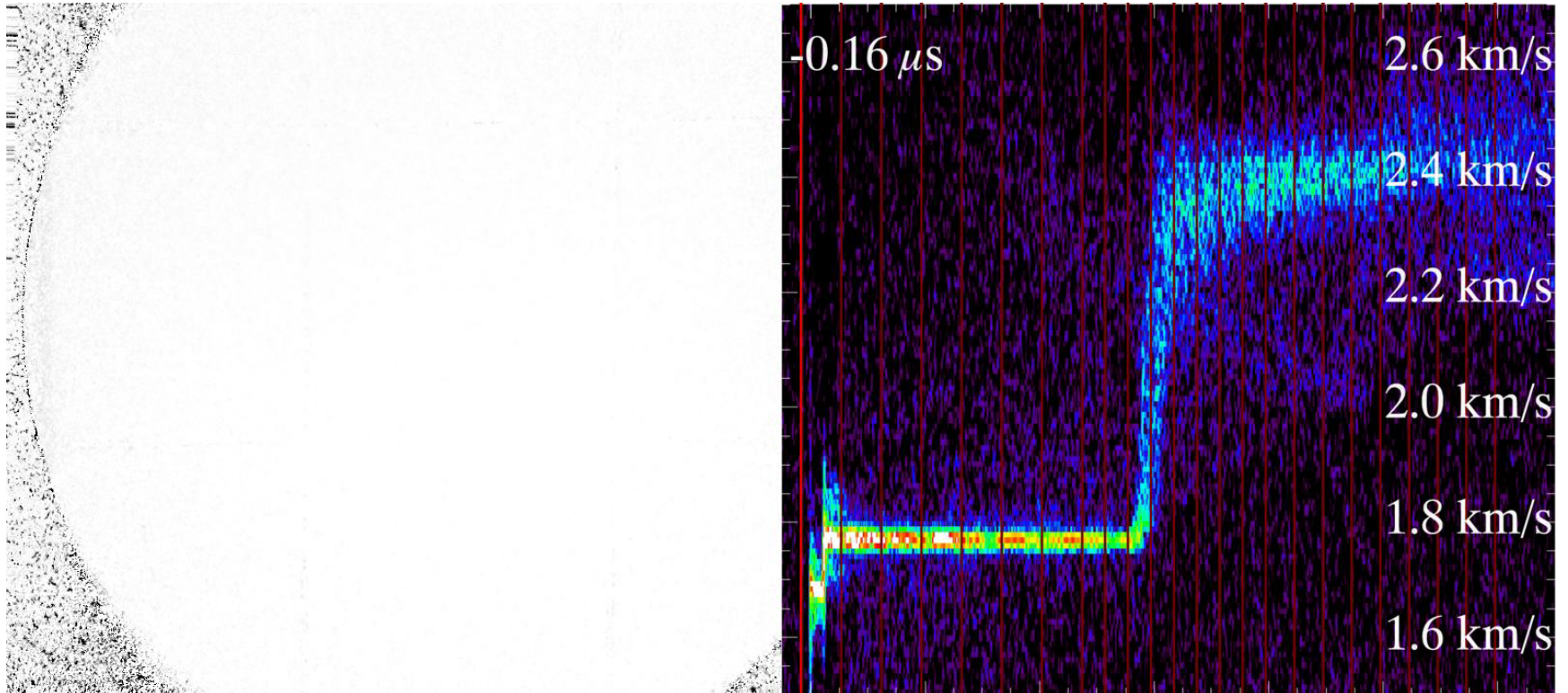
Region	$kh = \frac{2\pi}{\lambda} * h$	$\lambda = 0.55$ mm, Amplitude (mm)
1	1/2	0.044
2	1/8	0.011
3	1/4	0.022
4	3/4	0.066



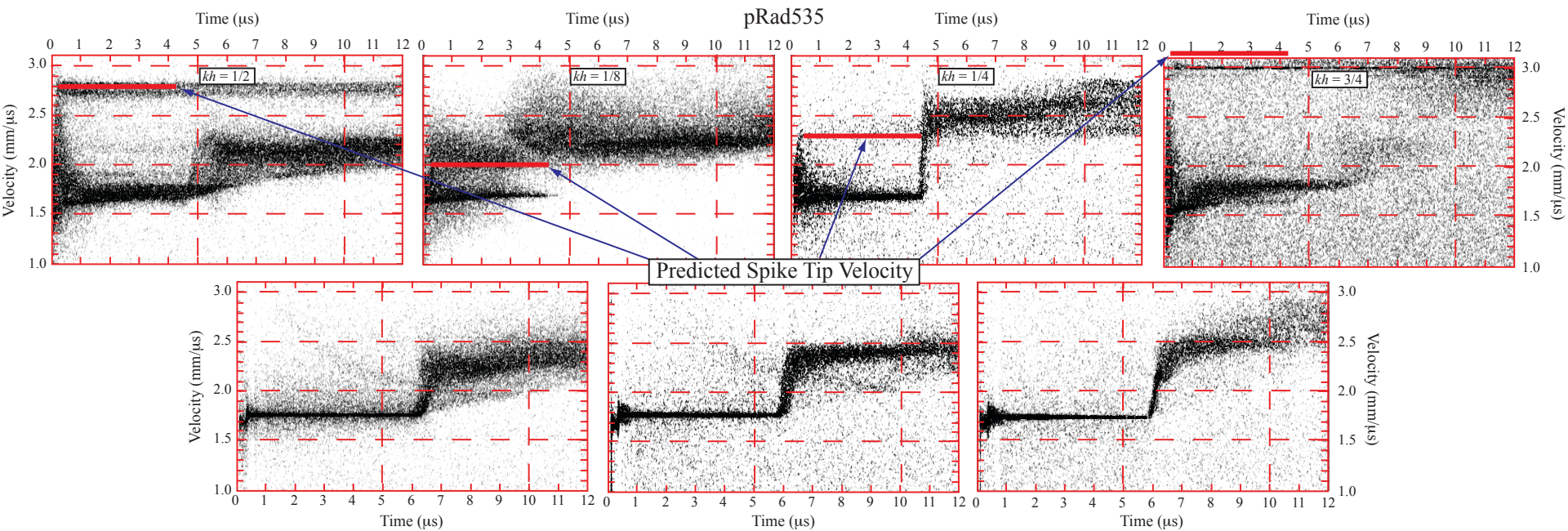
pRad 535 – 2-wave driver, 4 mm Sn Target, Vacuum



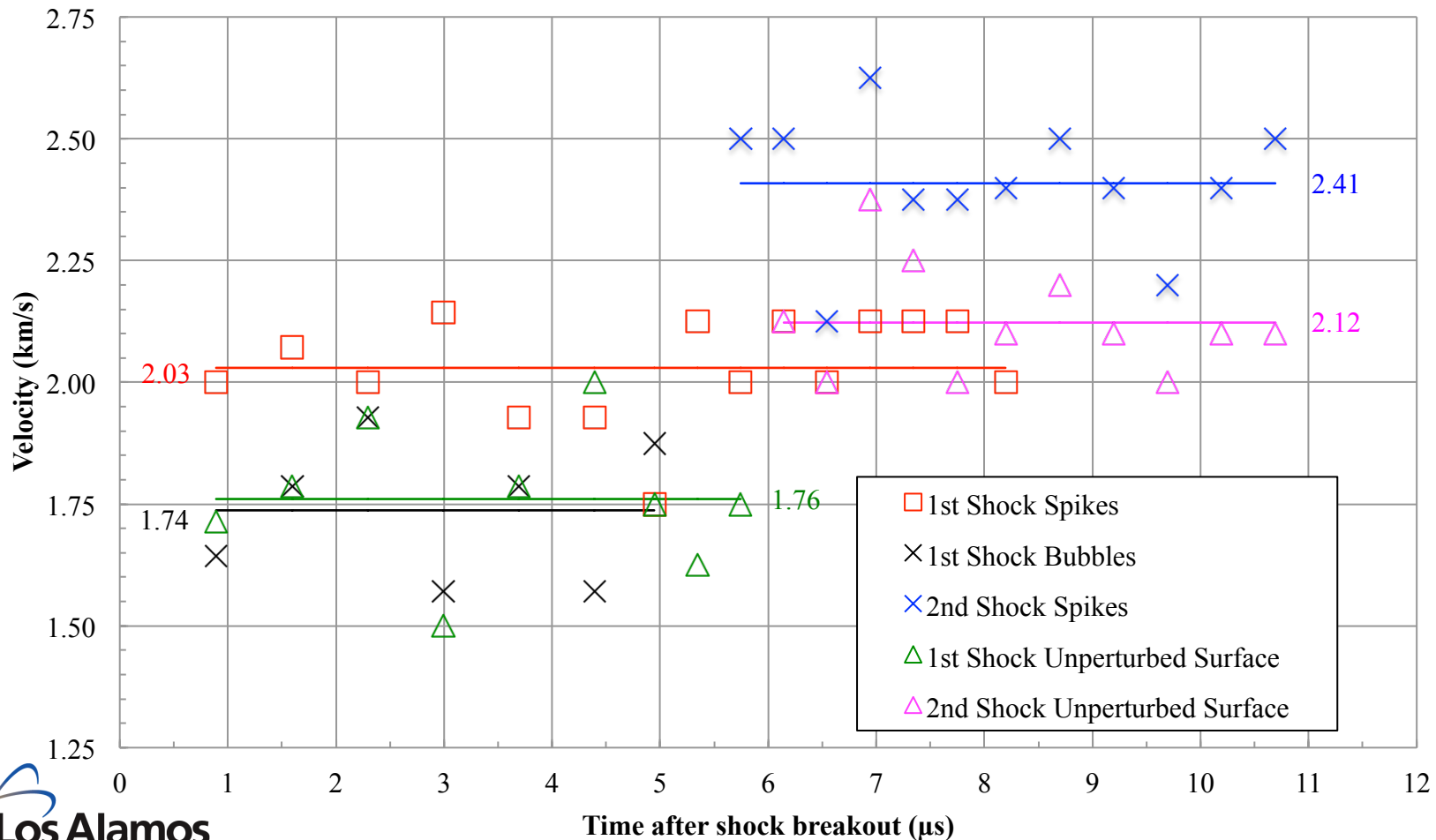
pRad 535 – 2-wave driver, 4 mm Sn Target, Vacuum



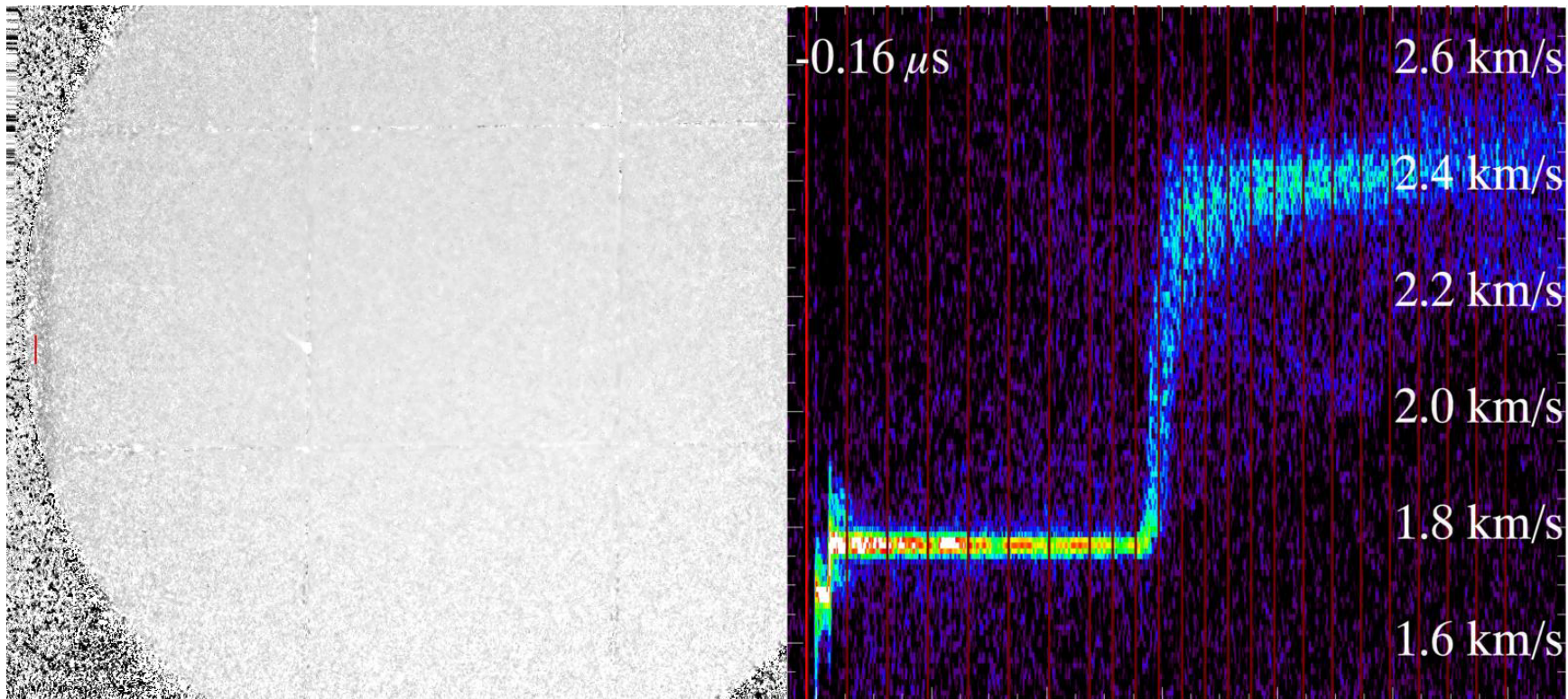
pRad 535 - Velocimetry



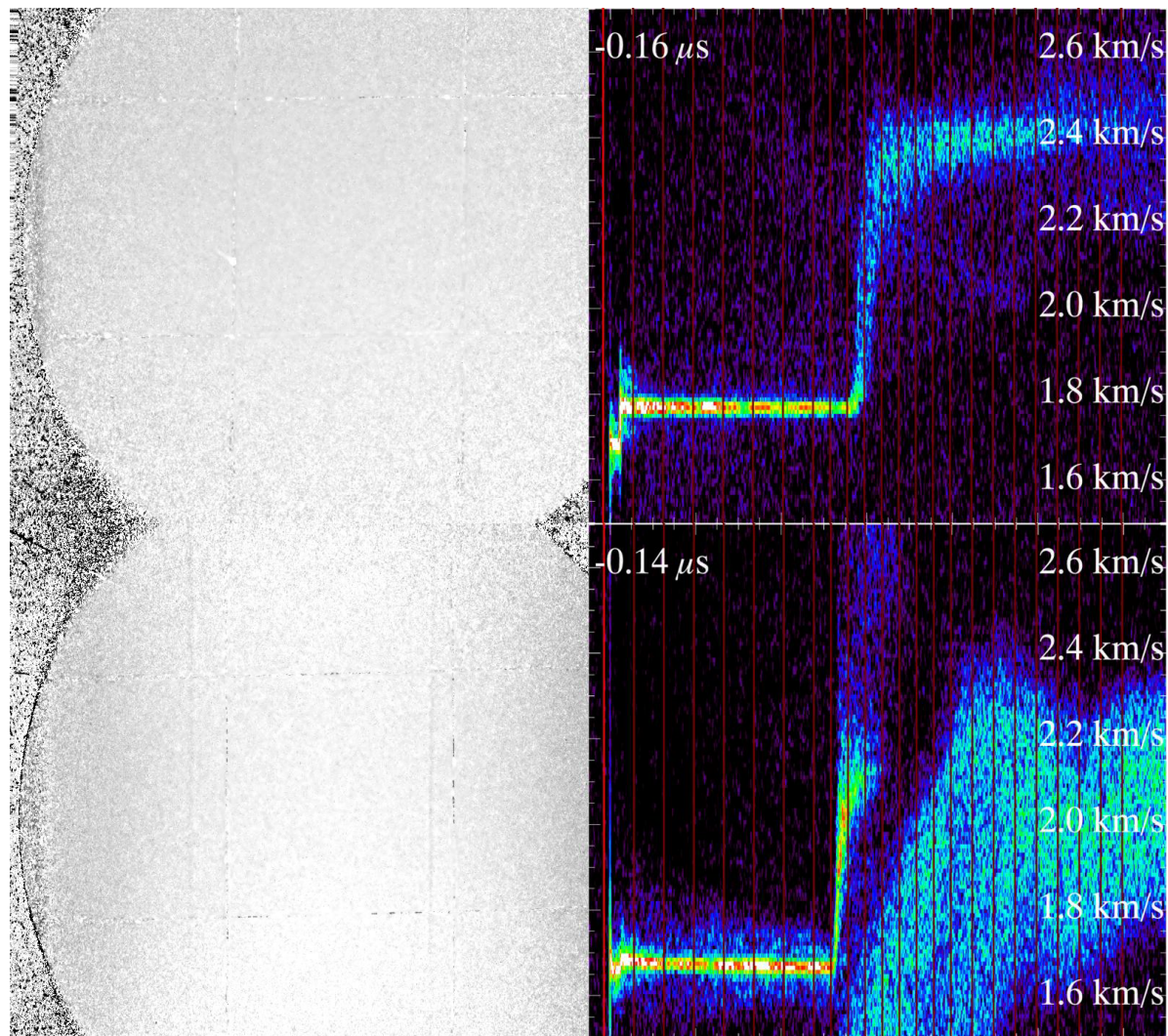
pRad 535 – Spike, Bubble and Surface Velocity for $kh = 1/8$



pRad 535 – “Velocimetry Surface”



pRad 535 (vacuum) & pRad 536 (~1 atm Ne)



Conclusions

- **Recent data provide a rich data set for the study of 1st and 2nd shock ejecta production.**
- **Data analysis still in progress:**
 - Detailed measurements of all regions.
 - Analysis of areal / volumetric density reconstructions.
 - Analysis of propagation through gas.
- **Proposed future work:**
 - Larger wavelength, same or smaller kh , fewer regions,
 - Lower initial shock - requires HE development.